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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,374	01/15/2004	Yiannis Argyropoulos	8C20.1-250	5424
39513 7590 04/16/2007 GARDNER GROFF SANTOS & GREENWALD, P.C. 2018 POWERS FERRY ROAD SUITE 800 ATLANTA, GA 30339			EXAMINER RAMAKRISHNAIAH, MELUR	
			ART UNIT	PAPER NUMBER
			2614	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/758,374

Applicant(s)

ARGYROPOULOS ET AL.

Examiner

Melur Ramakrishnaiah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-14 and 17-22 is/are rejected.
- 7) ☒ Claim(s) 8, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-5, 10, 11, 14, 17, 20 are rejected under 35 U.S.C 102(e) as being anticipated by Niemela et al. (US PAT: 7,193,988, filed 5-29-2001, hereinafter Niemela).

Regarding claim 1, Niemela discloses an apparatus (fig. 1C) for determining amount of resources (such as number of channels required on Abis interface) to be provisioned for a wired communication of a wireless network, the apparatus comprising: first logic (reads on 180A, fig. 1C) configured and store information to a type of coding algorithm used to encode data communicated between a wireless network transmitter (114, fig. 1C) and a wireless device (150, fig. 1C), second control logic (reads on 180B, fig. 1C) to process information relating to coding algorithm used (reads on type of modulation and coding scheme used for transmitting data) to determine a probability (this is implicit in as much as the reference teaches dynamic allocation of Abis interface transmission channels based on modulation and coding schemes: see abstract) that a given amount of resources will need to be provisioned for the communication link (160, fig. 1C; col. 2 lines 23 – 51; col. 10 lines 4-25).

Regarding claim 10, Niemela discloses a method for determining an amount of resources (such as number of channels required on Abis interface) to be provisioned for wired communication link (160, fig. 1C) of a wireless network, the method of comprising: estimating a probability (this is implicit in as much as the reference teaches dynamic allocation of Abis interface transmission channels based on modulation and coding schemes: see abstract) that one or more coding schemes were used over a particular period of time to encode data transmitted by a transmitter (114, fig. 1C) of the wireless network to one or more wireless devices ((150, fig. 1C) over an air interface (170, fig. 1C), based on estimation, determining a probability distribution that a particular number of backhaul link (160, fig. 1C) are needed per air interface channel, based on determination, estimating a probability that a total number of backhaul link channels to be provisioned for all of the air interface channels ( col. 2 lines 23 – 51; col. 10 lines 4-25).

Claim 11 is rejected on the same basis as claim 1.

Regarding claim 20, Niemela discloses a program for determining an amount of resources (such as number of channels required on Abis interface) to be provisioned for a wired communication link (160, fig. 1C) of a wireless network (fig. 1C), the program being embodied on a computer readable medium, the program comprising: a first code for receiving and storing information relating to a probability (this is implicit in as much as the reference teaches dynamic allocation of Abis interface transmission channels based on modulation and coding schemes: see abstract) that one or more types of coding algorithm were used over a given period time to encode data communicated

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over an air interface between a transmitter (114, fig. 1C) of a wireless network and one or more wireless devices (150, fig. 1C), and a second code segment for processing the information to determine probability that a given amount of resources will be needed for the wired communication link (160, fig. 1C; ( col. 2 lines 23 – 51; col. 10 lines 4-25).

Regarding claims 4-5, 14, 17, Niemela further teaches: first logic being a memory element in (180A, fig. 1C) of the computer in (140, fig. 1C configured to store information and a second logic (180B, fig. 1C) being a processor of the computer in (102, fig. 1C) programmed to process the information to determine the probability (col. 10 lines 5-25), the transceiver is a transceiver (114, fig. 1C) in a base station (100, fig. 1C) of a wireless network, and wherein the wired communication link (160, fig. 1C) is an Abis link between the base station transmitter and base station controller (102, fig. 1C) of the wireless network (fig. 1C, col. 3 lines 45-47), wired communication link (160, fig. 1C) is an Abis link between a base station transceiver (114, fig. 1C) and a base station controller (102, fig. 1C), the transmitter (114, fig. 1C) is part of a transceiver of a base station (100, fig. 1C) of a wireless network, and wherein the communication link (160, fig. 1C) is a wired Abis link between the base station transceiver (114, fig. 1C) and a base station controller (102, fig. 1C) of a wireless network ((fig. 1C, col. 3 lines 45-47).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of Hellberg (US PAT: 6,167,102).

Niemela differs from claims 2 in that although he implicitly teaches determining probability (this is implicit in as much as the reference teaches dynamic allocation of Abis interface transmission channels based on modulation and coding schemes: see abstract), he does not teach: using convolution algorithm to do this.

However, Hellberg suggests using convolution algorithm to implement needed systems in cellular base station (col. 1 lines 35-39).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Niemela's system to provide for convolution algorithm to implement systems in cellular base stations in order to effect processes as taught by Hellberg.

Claims 12 and 21 are rejected on the same basis as claim 2.

5. Claims 3, 13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of Milne et al. (US 2003/0227983, hereinafter Milne).

Niemela differs from claim 3 in that that although he implicitly teaches determining probability (this is implicit in as much as the reference teaches dynamic allocation of Abis interface transmission channels based on modulation and coding schemes: see abstract), he does not teach: using central limit theorem to do this.

However, Milne teaches use of central limit theorem to facilitate for understanding of averages (paragraph: 127).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Niemela's system to provide for use of central limit in theorem to process information as this arrangement would provide another well known mathematical tool to solve problems.

Claims 13 and 22 are rejected on the same basis as claim 3.

6. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of Holma et al. (US PAT: 7,085,248, hereinafter Holma).

Niemela differs from claim 6 in that he does not teach: wireless network is a Universal Mobile Telecommunication System (UMTS) wireless network, the wired communication link being a wired LUB link between node B of UMTS network and Radio Network Controller of the UMTS network.

However, Holma teaches: wireless network is a Universal Mobile Telecommunication System (UMTS) wireless network, the wired communication link being a wired LUB link between node B of UMTS network and Radio Network Controller of the UMTS network (fig. 1B, col. 5 lines 55-63).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Niemela's system to provide for: wireless network is a Universal Mobile Telecommunication System (UMTS) wireless network, the wired communication link being a wired LUB link between node B of UMTS network and Radio Network Controller of the UMTS network as this arrangement would provide another well known network arrangement to effect wireless communications as taught by Holma.

Claim 18 is rejected on the same basis as claim 6.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of Khullar et al. (US PAT: 6,400,928, hereinafter Khullar).

Niemela differs from claim 9 in that he does not specifically teach: information is calculated based on quality of the air interface between the wireless transmitter and wireless devices.

However, Gardner discloses method and apparatus for determining the transmission data rate in multi user communication system which teaches: information is calculated (such as modulation schemes to be used ) based on quality of the air interface between the wireless transmitter and wireless devices (col. 8 lines 1-16)

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Niemela's system to provide for: information is calculated based on quality of the air interface between the wireless transmitter and wireless devices as this arrangement would facilitate to maximize data rate as taught Khullar.

8. Claims 7 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of Karves et al. (US PAT: 7,085,257, hereinafter Karves).

Niemela differs from claim 7 in that he does not specifically teach: wireless network is a wireless local area network (WLAN), the transmitter being a transmitter of an access point of wireless local area network (WLAN).

Karves teaches the following: wireless network is a wireless local area network (WLAN), the transmitter being a transmitter of an access point of wireless local area network (fig. 1, col. 8 lines 11-43).



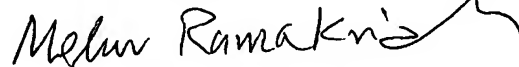
Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Niemela's system to provide for: wireless network is a wireless local area network (WLAN), the transmitter being a transmitter of an access point of wireless local area network as this arrangement would provide another well known network arrangement to effect wireless communications as taught by Karves.

9. Claims 8, 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Melur Ramakrishnaiah  
Primary Examiner  
Art Unit 2614